

## REMARKS

The above amendatory action is taken to correct certain informalities and to remove the basis for the Examiner's rejection of claims 93 and 94 under 35 USC 112, second paragraph, which appears at paragraph 6 of the Official Action dated November 6, 2001 in the parent application. In the claims as amended, it is clear that the term "functional equivalent thereof" relates to the respective amino acid sequences encoded by SEQ ID NO: 1 and defined by SEQ ID NO: 2 and not to some other sequence. All claims as amended are believed to be sufficiently definite to satisfy the dictates of 35 USC 112, second paragraph.

New claims 95-98 have been added more completely to define the subject matter which Applicants regard as their invention. Support for the recitations in claims 95-97 appears in the specification as filed at, for example, the paragraph bridging pages 7 and 8.

The Examiner has previously rejected claims 75, 76, 84, 85 and 89-92 under 35 USC 102(b) as allegedly being anticipated by Faulds et al. Applicants respectfully traverse this rejection.

The claimed antigens are defined in the claims as those that are isolated by antibodies present in a mammal a short time after infection with the Mycoplasma. In contrast, the sera used to identify the protective antigens described in Faulds et al were

obtained from **convalescent** pigs (see Faulds at column 5, second paragraph); that is, pigs that are over the early, acute phase of the infection and are in the later stages of the infection. The Faulds antigens are thus clearly different from the claimed antigens, which are identified using antibodies present a short time after infection. Furthermore, the location from which the respective antibodies are taken is different. The prior art antibodies are taken from the general circulation of the immunized animal while the antibodies of the claimed invention are taken from tissue surrounding the infection site.

The Examiner has argued that the recitation "a short time" does not restrict the claims because it contains no exact definition of what constitutes "a short time". Applicants respectfully submit that it is improper to ignore a recitation simply because it contains relative terminology that may not be considered precise (see MPEP Section 2173.05(b)). In the present case, the scope of the term would be understood by one of skill in the art when the term is read in light of the specification. Moreover, those of skill in the art would understand that an antibody obtained from a **convalescent** pig is not one that is obtained a short time after infection.

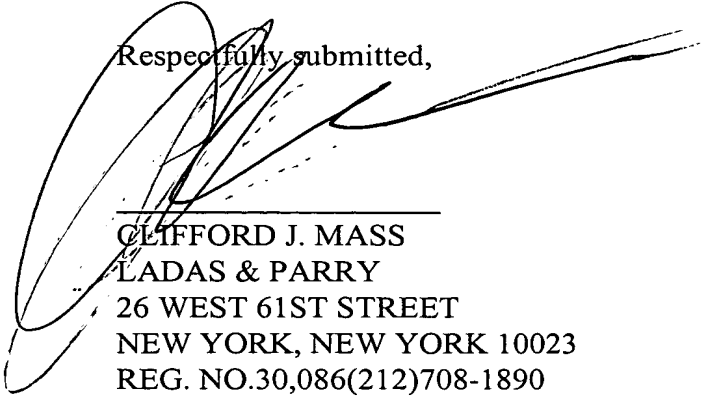
In short, since the claimed antigens are isolated by antibody populations that are different from the antibody populations that are used to isolate the Faulds et al antigens, the claimed antigens are different from the Faulds et al antigens. Accordingly, it is respectfully submitted that the rejection of record should be withdrawn.

The Examiner has also previously rejected the claims under 35 USC 102 (e) as allegedly being anticipated by Bredt et al. Applicants respectfully traverse this rejection.

Bredt et al describe the production of monoclonal antibodies against *M. pneumoniae* for diagnostic use. The antibodies are not used for the selection of antigens having efficacy as a vaccine. The only antigens described by the prior art document are those described by Kok et al (referred to in Bredt at column 5, last paragraph) and the P1 protein referred to in Bredt at column 7. The P1 protein is an adhesin protein of 168 kDa (Bredt at column 1, lines 52-55), and is clearly larger than the claimed antigens. Since Bredt does not show or suggest the claimed antigens, it is respectfully submitted that this rejection should be withdrawn.

In view of the above, Applicants request and early and favorable examination of the application as amended.

Respectfully submitted,



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